Required tools:

- Phillips screwdriver

- IC extractor or small, flat-bladed screwdriver. Needed for removal of the stock DOS ROM from the 1541 circuit board. An IC extractor is recommended, but not necessary (the small screwdriver will suffice). If using a screwdriver, wrap a layer of tape around the tip to help prevent damage to the circuit board when prying.

- Hand or power drill. Necessary for installation of the ROM selector switch in the 1541 case assembly.

Procedure:

1. If a disk is present in the 1541, remove it.

2. Make sure that the 1541 and your computer are OFF. Also make sure that any other peripherals attached to the serial bus are also switched OFF.

3. Unplug the 1541 power cord from its wall outlet.

4. Unplug the power and serial bus cables from the rear of the 1541.

5. Turn the 1541 upside-down and remove the four screws from the bottom of the drive as indicated in Figure 1 below.

Figure 1 CASE SCREW REMOVAL

6. Turn the 1541 back over into its normal position. Remove the top half of the 1541 case.

7. If your drive includes a metal shielding cover over the circuit board, remove the two screws on the side of the shielding cover, and then remove the cover. This should provide you with easy access to the circuit board.

8. Locate the position of the 1541 DOS ROM using the diagrams shown in Figure 2 on the next page. As you can see, there are four basic types of 1541 circuit boards.

Long Board: This type of board is found in the earliest 1541's, including the white VIC-1541.

Short Board: Although not actually the shortest board (the 1541C board is shorter), this board earned its name by being shorter than its predecessor, the "Long Board" found in the earliest 1541's.

Piggyback Board: This short-lived type of board was used just prior to the introduction of the 1541"C" in mid-1986. This board is essentially a 1541"C" circuit board with the addition of a small piggyback board which adapts the two old-style 1541 ROM's to the single 1541"C" ROM socket.

1541"C" Board: This board is found in the 1541"C". The 1541"C" has a cream-colored case (like the 64"C" and C-128), and a built-in track 1 sensor, which was included to eliminate the infamous "head knock" of earlier 1541's. For some reason, however, Commodore decided to disable the sensor, which lets the head on the 1541"C" rattle anyway.

Short Board
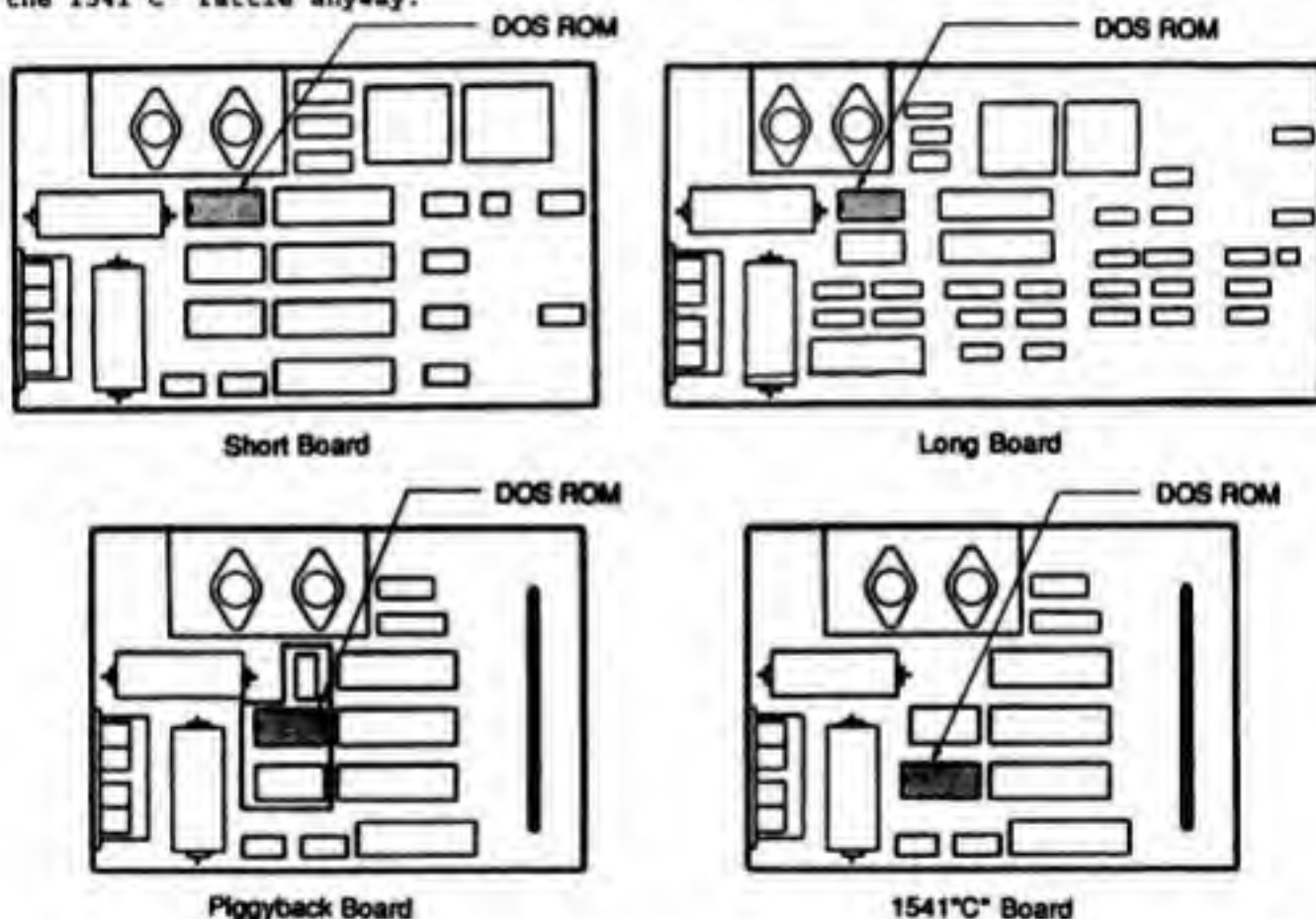
Long Board

Piggyback Board

1541"C" Board

Figure 2   DOS ROM LOCATION

9. Carefully remove the 1541 DOS ROM from its socket using the IC extractor or small, flat-bladed screwdriver (if you have a piggyback board drive, remove the complete piggyback board assembly). Alternate lifting the ROM (or piggyback board) from the front and back, raising it from its socket a little at a time. If using a screwdriver, take care not to damage the circuit board or any of the circuit board components while prying.

IF YOU HAVE A PIGGYBACK BOARD: You will notice that the DOS ROM is soldered onto the piggyback board. This leaves you two alternatives:

a. Unsolder the 1541 DOS ROM from the piggyback board, and solder the JiffyDOS Adapter Board in its place. Although it is preferable to solder an IC socket in place on the piggyback board before installing the JiffyDOS adapter, doing so may not leave enough clearance between the JiffyDOS ROM and the top cover of the drive.

b. Return your present JiffyDOS 1541 ROM to Creative Micro Designs and request a 1541"C" Adapter Board in exchange. The 1541"C" adapter will install directly in the socket vacated by the piggyback board, and will work without any problems. Once you receive the 1541"C" adapter, prodeed with Step 10 and reference the 1541"C" diagram.

10. Remove the JiffyDOS ROM labeled 1541 from its protective packing. Inspect the JiffyDOS 1541 ROM/Adapter Board Assembly carefully. If you observe any bent pins, carefully straighten them with a pair of tweezers. Put the stock 1541 DOS ROM back into the packing for safe keeping.

11. "Test fit" the 1541 ROM/Adapter Board Assembly on top of the empty 1541 DOS ROM socket but **DO NOT PRESS IT INTO PLACE AT THIS TIME.**
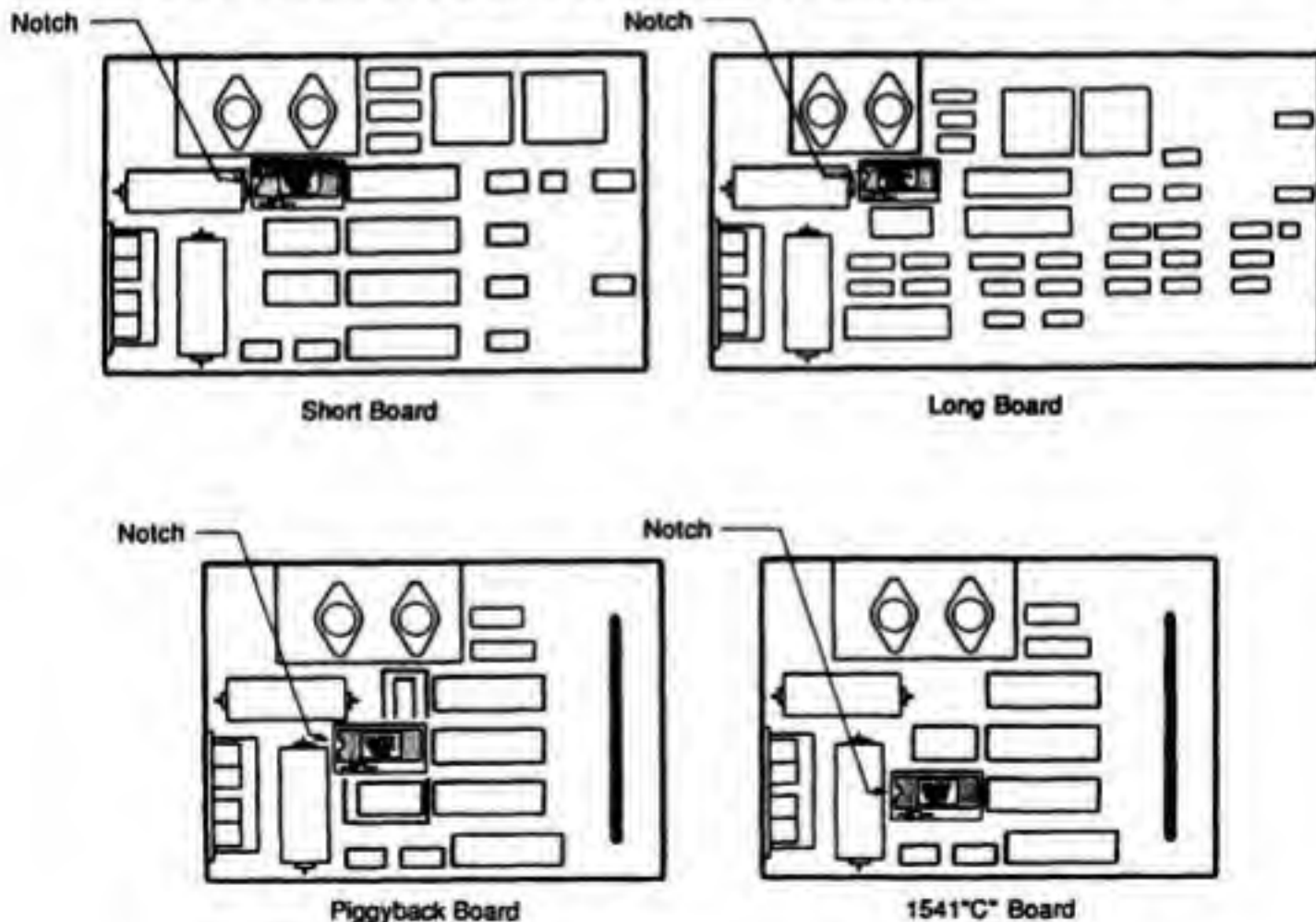

Short Board

Long Board

Piggyback Board

1541"C" Board

Figure 4 JiffyDOS 1541 ROM NOTCH ORIENTATION

Be sure that the notch in the JiffyDOS 1541 ROM is oriented
towards the rear of the disk drive as shown in the diagrams
in Figure 4 on the previous page.

12. Make sure that each pin of the JiffyDOS 1541 ROM/Adapter Board is aligned
    properly in the socket (straighten any misaligned pins with a pair of
    tweezers). Again, be certain that the ROM notch is facing the rear of the
    disk drive.

13. With the pins properly aligned and with the ROM notch facing the rear of the
    disk drive, carefully press the 1541 ROM/Adapter Board Assembly into the
    socket using firm finger pressure until it is fully seated.

14. Make sure that the JiffyDOS 1541 ROM Adapter Assembly is seated evenly and
    completely and that no pins have been bent.

15. Drill a 1/4" hole in the 1541 case assembly to accomodate the JiffyDOS ROM
    selector switch. A suggested switch location is given in Figure 5 below.

    WHETHER YOU CHOOSE THIS LOCATION OR AN ALTERNATE ONE, MAKE ABSOLUTELY SURE
    THAT THE SWITCH IS POSITIONED SO THAT IT WILL NOT COME INTO CONTACT WITH ANY
    OF THE 1541 INTERNAL COMPONENTS.
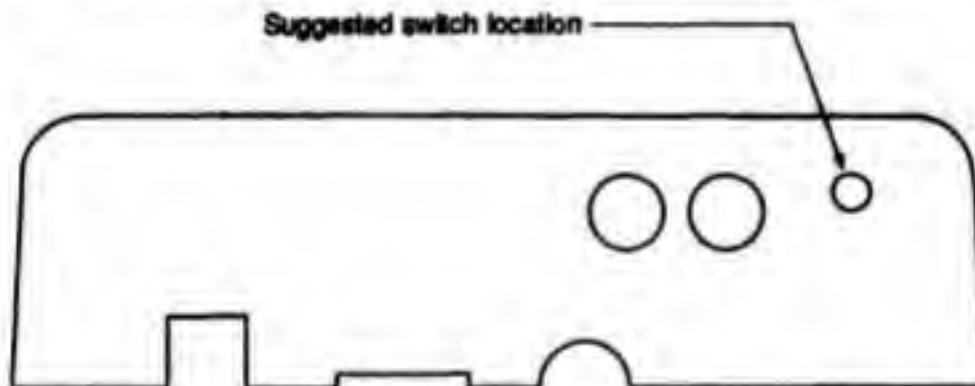
Suggested switch location ————————

Figure 5 SUGGESTED SWITCH LOCATION

16. Install the JiffyDOS Selector Switch into the hole just drilled in the 1541
    case assembly and secure it using the hardware provided with the switch.
    Make sure that the selector switch wiring is routed clear of all moving parts
    in the drive.

17. If your drive includes a metal shielding cover (which was removed in Step 7),
    replace the shielding cover and its two mounting screws at this time.

18. Replace the 1541 top cover. Turn the drive over on its back and replace the
    four case mounting screws removed in Step 5.

19. Place the 1541 back into an upright position. Replace the serial bus cable.
    DO NOT CONNECT ANY OTHER DEVICES TO THE SERIAL BUS AT THIS TIME. Remember to
    plug the power cord into the back of the 1541 and then into a working outlet.

Installation Checkout Procedure:

NOTE: Some of the steps in the following 1541 installation checkout procedure require the use of a JiffyDOS-equipped computer.

1. Switch the 1541 ON. The activity light on the front of the drive should come on immediately as power is switched on, stay on for about one second, and then shut off as it normally does upon power-up.

   IF THE ACTIVITY LIGHT STAYS ON OR BLINKS REPEATEDLY, IMMEDIATELY SWITCH THE DRIVE OFF. THEN FOLLOW THE STEPS OUTLINED BELOW.

   1a. Recheck all cabling connections to the 1541. Make sure that the power supply and serial bus cables have been connected properly. Make sure that the AC power cord has been plugged into a working outlet. If any cabling errors have been made, correct the errors and try powering up the 1541 again.

   1b. If the problem is not with the cabling, disassemble the 1541 according to the procedure you used earlier. Remove the JiffyDOS ROM assembly from its socket and then reinstall it according to the procedure in Steps 11-14. Make sure that the ROM notch is oriented correctly, that there are no bent pins, and that the ROM is seated snugly in its socket. Once the JiffyDOS ROM assembly has been reinstalled and the drive has been reassembled, try powering up the 1541 again.

   1c. If Steps 1a and 1b both fail, remove the JiffyDOS ROM assembly and reinstall the stock 1541 DOS ROM. Follow the same procedure for installing the stock DOS ROM as you did for installing the JiffyDOS ROM assembly. Make sure that the notch on the stock DOS ROM is oriented correctly. Try powering up the 1541 again. If it powers up properly, return your JiffyDOS 1541 ROM assembly to Creative Micro Designs for replacement under warranty. If your disk drive does not power up properly, seek the assistance of a qualified technician.

2. Once the 1541 has been powered up successfully, select JiffyDOS on your computer and then power it on (make sure that the power-on message on your computer indicates that JiffyDOS is active). Insert a known good diskette with a few programs on it into the 1541.

3. At your computer, type @$ and RETURN. The activity light on the 1541 should come on and a directory listing should appear on the screen.

   IF THE DIRECTORY LISTING DOES NOT APPEAR, OR AN ERROR MESSAGE IS DISPLAYED, SHUT OFF THE 1541 AND YOUR COMPUTER. FOLLOW THE TROUBLESHOOTING PROCEDURE OUTLINED BELOW.

   3a. Make sure that JiffyDOS is selected on your computer. When JiffyDOS is selected, the power-on screen will display: **JIFFYDOS/64 VERSION x.x**, or **JIFFYDOS/128 VERSION x.x.** If you did not have JiffyDOS selected on your computer, select it now and try reading the disk directory again.

   3b. Make sure that you have a known good disk in the 1541. Make sure that the disk is properly inserted in the drive.

3c. Recheck the serial bus cabling between your computer and disk drive. Correct any errors and try reading the directory again.

3d. If the problem persists, proceed with troubleshooting procedure 1b found on the previous page.

4. Test the operation of the 1541 ROM selector switch. To do this, shut the 1541 OFF, and then turn it back ON. Make sure that your computer is in JiffyDOS mode. Type @ and RETURN on the keyboard (this will read and display the 1541 status channel). Depending on the position of the ROM selector switch, one of the following messages will be displayed:

73,JIFFYDOS x.x 1541, 00, 00

73,CBM DOS V2.6 1541, 00, 00

Next, power off the 1541, select the alternate position on the ROM selector switch, and then power the 1541 back on. Type @ and RETURN on the keyboard. This time, the other message should be displayed.

IF YOU CANNOT GET BOTH MESSAGES TO BE DISPLAYED, FOLLOW THE INSTRUCTIONS BELOW:

4a. Toggle the selector switch back and forth several times to break through any oxidation on the switch contacts and repeat this step (Step 4) from the beginning.

4b. If exercising the switch does not work, disasssemble the 1541 and check the the switch wire connections at the switch and at the ROM assembly for shorts or breaks. Repair any evident problems (resolder the connections, if necessary), reassemble the drive, and then repeat Step 4 again.

4c. If the problem persists, return the JiffyDOS 1541 ROM assembly to Creative Micro Designs for replacement under warranty. Please be sure to include a note explaining the problem.

5. After the selector switch has been checked out, the 1541 is ready to use. If there are any more peripherals to connect to your system, shut off the 1541 and your computer, and connect them at this time.